

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pittsburgh

301 Alpha Drive

RIDC Park

Pittsburgh, PA 15238

Tel: (412)963-7058

TestAmerica Job ID: 180-2915-1

Client Project/Site: Dimock/Carter Rd.

For:

Cabot Oil & Gas

Five Penn Center West, Suite 401

Pittsburgh, Pennsylvania 15276

Attn: Phillip Levasseur



Authorized for release by:

09/13/2011 04:08:40 PM

Ryan Hall

Customer Service Manager

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Case Narrative

Client: Cabot Oil & Gas
Project/Site: Dimock/Carter Rd.

TestAmerica Job ID: 180-2915-1

Job ID: 180-2915-1

Laboratory: TestAmerica Pittsburgh

Narrative

Job Narrative
180-2915-1

Comments

No additional comments.

Receipt

No analytical or quality issues were noted.

Subcontract Work

Method Dissolved Methane, Ethane and Propane - Nashville: This method was subcontracted to TestAmerica Nashville. The subcontract certification is different from those listed on the TestAmerica cover page of this final report.

Definitions/Glossary

Client: Cabot Oil & Gas
Project/Site: Dimock/Carter Rd.

TestAmerica Job ID: 180-2915-1

Qualifiers

Pesticides

Qualifier	Qualifier Description
E	Concentration exceeds the calibration range and therefore result is semi-quantitative.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit (Dioxin)
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or method detection limit if shown)
PQL	Practical Quantitation Limit
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Certification Summary

Client: Cabot Oil & Gas
Project/Site: Dimock/Carter Rd.

TestAmerica Job ID: 180-2915-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Pittsburgh	ACLASS	DoD ELAP		ADE-1422
TestAmerica Pittsburgh	Arkansas	State Program	6	88-0690
TestAmerica Pittsburgh	California	NELAC	9	4224CA
TestAmerica Pittsburgh	Connecticut	State Program	1	PH-0688
TestAmerica Pittsburgh	Florida	NELAC	4	E871008
TestAmerica Pittsburgh	Illinois	NELAC	5	002602
TestAmerica Pittsburgh	Kansas	NELAC	7	E-10350
TestAmerica Pittsburgh	Louisiana	NELAC	6	04041
TestAmerica Pittsburgh	New Hampshire	NELAC	1	203011
TestAmerica Pittsburgh	New Jersey	NELAC	2	PA005
TestAmerica Pittsburgh	New York	NELAC	2	11182
TestAmerica Pittsburgh	North Carolina	North Carolina DENR	4	434
TestAmerica Pittsburgh	Pennsylvania	NELAC	3	02-00416
TestAmerica Pittsburgh	Pennsylvania	State Program	3	02-416
TestAmerica Pittsburgh	South Carolina	State Program	4	89014002
TestAmerica Pittsburgh	USDA	USDA		P-Soil-01
TestAmerica Pittsburgh	USDA	USDA		P330-10-00139
TestAmerica Pittsburgh	Utah	NELAC	8	STLP
TestAmerica Pittsburgh	West Virginia	West Virginia DEP	3	142
TestAmerica Pittsburgh	Wisconsin	State Program	5	998027800

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

Sample Summary

Client: Cabot Oil & Gas
Project/Site: Dimock/Carter Rd.

TestAmerica Job ID: 180-2915-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-2915-1	ELY, SC+MO WELL1	Water	08/11/11 11:33	08/12/11 10:00
180-2915-2	CARTER WELL 1	Water	08/11/11 12:15	08/12/11 10:00
180-2915-3	SYEMOUR WELL 1	Water	08/11/11 12:55	08/12/11 10:00
180-2915-4	ROOS WELL 1	Water	08/11/11 13:37	08/12/11 10:00

Method Summary

Client: Cabot Oil & Gas
Project/Site: Dimock/Carter Rd.

TestAmerica Job ID: 180-2915-1

Method	Method Description	Protocol	Laboratory
RSK 175	Methane, Ethane, and Ethene by GC		TAL NSH

Protocol References:

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Road, Nashville, TN 37204, TEL 800-765-0980

Client Sample Results

Client: Cabot Oil & Gas
Project/Site: Dimock/Carter Rd.

TestAmerica Job ID: 180-2915-1

Client Sample ID: ELY, SC+MO WELL1

Lab Sample ID: 180-2915-1

Date Collected: 08/11/11 11:33

Matrix: Water

Date Received: 08/12/11 10:00

Method: RSK 175 - Methane, Ethane, and Ethene by GC - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	1.34		0.0260		mg/L		08/17/11 15:16	08/18/11 19:43	1.00
Propane	ND		0.0340		mg/L		08/17/11 15:16	08/18/11 19:43	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Acetylene	106		70 - 122				08/17/11 15:16	08/18/11 19:43	1.00

Method: RSK 175 - Methane, Ethane, and Ethene by GC - Dissolved - RE1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	31.9		2.08		mg/L		08/17/11 15:16	08/18/11 19:46	80.0

Client Sample ID: CARTER WELL 1

Lab Sample ID: 180-2915-2

Date Collected: 08/11/11 12:15

Matrix: Water

Date Received: 08/12/11 10:00

Method: RSK 175 - Methane, Ethane, and Ethene by GC - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	0.224		0.0260		mg/L		08/17/11 15:16	08/18/11 19:49	1.00
Propane	ND		0.0340		mg/L		08/17/11 15:16	08/18/11 19:49	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Acetylene	95		70 - 122				08/17/11 15:16	08/18/11 19:49	1.00

Method: RSK 175 - Methane, Ethane, and Ethene by GC - Dissolved - RE1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	3.77		0.260		mg/L		08/17/11 15:16	08/18/11 19:51	10.0

Client Sample ID: SYEMOUR WELL 1

Lab Sample ID: 180-2915-3

Date Collected: 08/11/11 12:55

Matrix: Water

Date Received: 08/12/11 10:00

Method: RSK 175 - Methane, Ethane, and Ethene by GC - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	0.0510		0.0260		mg/L		08/17/11 15:16	08/18/11 19:55	1.00
Propane	ND		0.0340		mg/L		08/17/11 15:16	08/18/11 19:55	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Acetylene	85		70 - 122				08/17/11 15:16	08/18/11 19:55	1.00

Method: RSK 175 - Methane, Ethane, and Ethene by GC - Dissolved - RE2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	2.63		0.260		mg/L		08/17/11 15:16	08/18/11 20:00	10.0

Client Sample ID: ROOS WELL 1

Lab Sample ID: 180-2915-4

Date Collected: 08/11/11 13:37

Matrix: Water

Date Received: 08/12/11 10:00

Method: RSK 175 - Methane, Ethane, and Ethene by GC - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	8.15	E	0.0260		mg/L		08/17/11 15:16	08/18/11 20:04	1.00

Client Sample Results

Client: Cabot Oil & Gas
Project/Site: Dimock/Carter Rd.

TestAmerica Job ID: 180-2915-1

Client Sample ID: ROOS WELL 1

Lab Sample ID: 180-2915-4

Date Collected: 08/11/11 13:37

Matrix: Water

Date Received: 08/12/11 10:00

Method: RSK 175 - Methane, Ethane, and Ethene by GC - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	1.19		0.0260		mg/L		08/17/11 15:16	08/18/11 20:04	1.00
Propane	ND		0.0340		mg/L		08/17/11 15:16	08/18/11 20:04	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Acetylene	107		70 - 122				08/17/11 15:16	08/18/11 20:04	1.00

Method: RSK 175 - Methane, Ethane, and Ethene by GC - Dissolved - RE2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	26.1		2.08		mg/L		08/17/11 15:16	08/18/11 20:10	80.0

QC Sample Results

Client: Cabot Oil & Gas
Project/Site: Dimock/Carter Rd.

TestAmerica Job ID: 180-2915-1

Method: RSK 175 - Methane, Ethane, and Ethene by GC

Lab Sample ID: 11H4029-BLK1

Matrix: Water

Analysis Batch: U014593

Client Sample ID: Method Blank

Prep Type: Dissolved

Prep Batch: 11H4029_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		0.0260		mg/L		08/17/11 13:14	08/17/11 16:34	1.00
Ethane	ND		0.0260		mg/L		08/17/11 13:14	08/17/11 16:34	1.00
Propane	ND		0.0340		mg/L		08/17/11 13:14	08/17/11 16:34	1.00
Surrogate	Blank % Recovery	Blank Qualifier	Limits				Prepared	Analyzed	Dil Fac
Acetylene	71		70 - 122				08/17/11 13:14	08/17/11 16:34	1.00

Lab Sample ID: 11H4029-BS1

Matrix: Water

Analysis Batch: U014593

Client Sample ID: Lab Control Sample

Prep Type: Dissolved

Prep Batch: 11H4029_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Methane	0.273	0.238		mg/L		87	80 - 120
Ethane	0.512	0.469		mg/L		91	80 - 120
Propane	0.754	0.708		mg/L		94	80 - 120
Surrogate	LCS % Recovery	LCS Qualifier	Limits				
Acetylene	102		70 - 122				

Lab Sample ID: 11H4088-BLK1

Matrix: Water

Analysis Batch: U014682

Client Sample ID: Method Blank

Prep Type: Dissolved

Prep Batch: 11H4088_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		0.0260		mg/L		08/17/11 15:16	08/18/11 18:24	1.00
Ethane	ND		0.0260		mg/L		08/17/11 15:16	08/18/11 18:24	1.00
Propane	ND		0.0340		mg/L		08/17/11 15:16	08/18/11 18:24	1.00
Surrogate	Blank % Recovery	Blank Qualifier	Limits				Prepared	Analyzed	Dil Fac
Acetylene	113		70 - 122				08/17/11 15:16	08/18/11 18:24	1.00

Lab Sample ID: 11H4088-BS1

Matrix: Water

Analysis Batch: U014682

Client Sample ID: Lab Control Sample

Prep Type: Dissolved

Prep Batch: 11H4088_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Methane	0.273	0.301		mg/L		110	80 - 120
Ethane	0.512	0.565		mg/L		110	80 - 120
Propane	0.754	0.833		mg/L		110	80 - 120
Surrogate	LCS % Recovery	LCS Qualifier	Limits				
Acetylene	114		70 - 122				

QC Association Summary

Client: Cabot Oil & Gas
Project/Site: Dimock/Carter Rd.

TestAmerica Job ID: 180-2915-1

Pesticides

Analysis Batch: U014593

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H4029-BLK1	Method Blank	Dissolved	Water	RSK 175	11H4029_P
11H4029-BS1	Lab Control Sample	Dissolved	Water	RSK 175	11H4029_P

Analysis Batch: U014682

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H4088-BLK1	Method Blank	Dissolved	Water	RSK 175	11H4088_P
11H4088-BS1	Lab Control Sample	Dissolved	Water	RSK 175	11H4088_P
180-2915-1	ELY, SC+MO WELL 1	Dissolved	Water	RSK 175	11H4088_P
180-2915-1 - RE1	ELY, SC+MO WELL 1	Dissolved	Water	RSK 175	11H4088_P
180-2915-2	CARTER WELL 1	Dissolved	Water	RSK 175	11H4088_P
180-2915-2 - RE1	CARTER WELL 1	Dissolved	Water	RSK 175	11H4088_P
180-2915-3	SYEMOUR WELL 1	Dissolved	Water	RSK 175	11H4088_P
180-2915-3 - RE2	SYEMOUR WELL 1	Dissolved	Water	RSK 175	11H4088_P
180-2915-4	ROOS WELL 1	Dissolved	Water	RSK 175	11H4088_P
180-2915-4 - RE2	ROOS WELL 1	Dissolved	Water	RSK 175	11H4088_P

Prep Batch: 11H4029_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H4029-BLK1	Method Blank	Dissolved	Water	RSK 175/3810	
11H4029-BS1	Lab Control Sample	Dissolved	Water	RSK 175/3810	

Prep Batch: 11H4088_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H4088-BLK1	Method Blank	Dissolved	Water	RSK 175/3810	
11H4088-BS1	Lab Control Sample	Dissolved	Water	RSK 175/3810	
180-2915-1	ELY, SC+MO WELL 1	Dissolved	Water	RSK 175/3810	
180-2915-1 - RE1	ELY, SC+MO WELL 1	Dissolved	Water	RSK 175/3810	
180-2915-2	CARTER WELL 1	Dissolved	Water	RSK 175/3810	
180-2915-2 - RE1	CARTER WELL 1	Dissolved	Water	RSK 175/3810	
180-2915-3	SYEMOUR WELL 1	Dissolved	Water	RSK 175/3810	
180-2915-3 - RE2	SYEMOUR WELL 1	Dissolved	Water	RSK 175/3810	
180-2915-4	ROOS WELL 1	Dissolved	Water	RSK 175/3810	
180-2915-4 - RE2	ROOS WELL 1	Dissolved	Water	RSK 175/3810	

Chain of Custody Record

AMEC

TestAmerica Laboratory location: Pittsburgh --- 301 Alpha Drive / Pittsburgh, PA 15238 / 412-963-7058

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Chain of Custody Record

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Chain of Custody Record

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Login Sample Receipt Checklist

Client: Cabot Oil & Gas

Job Number: 180-2915-1

Login Number: 2915

List Source: TestAmerica Pittsburgh

List Number: 1

Creator: Gamber, Tom

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	